

**Actuarial Summary**  
**for Required Rates in Plan 65 Non-Group Filing**  
**For February 1, 2008, March 1, 2008, and April 1, 2008 Billing Cycles**

➤ **General Methodology**

The methodology for rating Plan 65 has several different components. This actuarial summary will describe the processes for calculating the Plan 65 required rate for our Medigap and Select plans. References to specific schedules in the rate calculations are underlined. Generally, the schedules work from back to front in the development of the required rates.

The required rate per contract per month (PCPM) for every Medigap and Select plan consists of two parts. These parts are the projected claims expense, or projected pure premium, and the retention components. The retention components encompass the administrative expenses, Investment Income Credit, contribution to corporate reserve, and federal and state taxes. The projected pure premium is calculated by projecting the claims expense for each benefit into the rate year through the use of projection factors and adding the appropriate benefit components together to get the total projected pure premium for each plan. The projected pure premium is added to the retention components to obtain the required rate. Then, the required rate is divided by the present weighted average subscription income to produce the required rate adjustment factor. Each rate band within the product being rated is multiplied by this factor to derive the required rates for each product. These processes will be described in more detail later in the summary.

The claims base consists of two pools. These pools are the Medigap and Select plans. These two groups are pooled separately to take into account the different risk characteristics of each pool. The Select products have a hospital network constraint (local to Rhode Island) while the Medigap products do not. Medigap and Select also have differing enrollment eligibility guidelines. For these reasons, Medigap and Select are pooled separately. The plans themselves in the Medigap set are pooled together due to the fact that two of the three plans are too small to be fully credible. Enrollment in Plans A and B only represent 2% of the total Medigap enrollment. Similarly, since Plans B and L only represent 2% of total enrollment for Select plans, these plans are pooled together with Select C.

Pooling the claims in this manner implies that the projected pure premium for a benefit in a given plan is the same as another plan in the same pool. For example, referring to Schedule 10, Columns 7 and 8, the 2008 projected pure premium for the Part A Deductible is the same for Select Plan B and Select Plan C, which is \$0.7706 per contract per month.

The claims base represents calendar year 2006 payment data for all benefits except for the Part A Co-payment, 365 Additional Days, and Foreign Travel Emergency benefits.

Due to the erratic nature of these benefits, their pure premiums cannot be projected by normal means. The projection of these benefits uses an average of the 2004 and 2005 pure premiums for Medigap and Select projected to calendar year 2006. The total claims base for these components represent only 1.9% of Medigap claims and 0.7% of Select claims.

### ➤ **Projected Pure Premium**

The projected pure premiums for all plans are calculated by projecting the claims expense PCPM from the base year 2006 into 2007, 2008, and 2009 through the use of composite projection factors. Since rates are effective for February 1, 2008, March 1, 2008, and April 1, 2008 billing cycles, we must project to both 2008 and 2009. These composite factors reflect changes in benefits, provider fees, and utilization/mix of services from year to year. For example, according to Schedule 17, Columns 2 through 5, the Medigap Part A Deductible pure premium for calendar year 2006 was \$24.9593, and there was a 4.20% increase in the deductible itself, no increase in provider fees, and a projected 1.12% increase in utilization. The total increase is projected to be  $1.0420 \times 1.0000 \times 1.0012 = 1.0537$ . Therefore, the projected pure premium increase is 5.37% and the projected pure premium for the Medigap Part A Deductible for 2007 is \$26.2996, which is in Schedule 17, Column 7. Benefit change factors and their supporting calculations pertaining to Part A benefits and the Part B Deductible can be found in the footnotes of the relevant schedules, while all other supporting calculations pertaining to projection factors can be found in Schedules 20 through 28.

### **Benefit Changes**

Benefit changes reflect the change in Medicare deductibles and co-payments for each benefit in a Medigap or Select plan. In most cases, the benefit change factor is the projection year deductible or co-payment divided by the base year deductible or co-payment. The benefit changes for each benefit are shown below. Medigap and Select have the same benefit changes with the exception of the Part B Co-payment, as explained below.

- Since the Part A Co-payment and Skilled Nursing Facility (SNF) Co-payment are directly proportional to the Part A Deductible, all three benefits will increase at the same rate. Therefore, they share the same benefit change factors. The Part A Deductible, Part A Co-payment, and SNF Co-payment benefit change factor from base period 2006 to 2007 is 1.0420, based on the Part A Deductible increase per 71 FR 54663 September 18, 2006: \$992 (CY 2007) / \$952 (CY 2006). The benefit change factor from 2007 to 2008 is 1.0484, per the 2007 Trustee's Report released on April 23, 2007: \$1,040 (CY 2008) / \$992 (CY 2007). The benefit change factor from 2008 to 2009 is 1.0500, per the 2007 Trustee's Report released on April 23, 2007: \$1,092 (CY 2009) / \$1,040 (CY 2008).

- The 365 Additional Days benefit change factor from 2006 to 2007 is 1.0340. This factor is the 2007 over 2006 payment weighted average rate increase for inpatient hospital services, per 71 FR 54663 September 18, 2006. The payment weighted average rate increase is used instead of the total hospital increase since the nature of this benefit implies that mix of services does not significantly impact this benefit (i.e. there are few services for which a member would be hospitalized for more than 150 days, when this benefit would begin to be utilized). The benefit change factors for 2008 and 2009 are 1.0385 and 1.0403, respectively, per an e-mail from John Wandishin of the CMS Office of the Actuary dated May 10, 2007.
- The Part B Deductible benefit change factor for 2007 is 1.0565, per 71 FR 54665 September 18, 2006. The 2008 and 2009 factors are 1.0840 and 1.0282, respectively, per the MEI scenario shown in "Projected Medicare Part B Expenditures under Two Illustrative Scenarios with Alternative Physician Payment Updates", published by the CMS Office of the Actuary in April 2007. This scenario is more realistic than the 10% and 5% decreases in physician payments mandated by current law under the sustainable growth formula for 2008 and 2009, respectively, since Congress has overridden similar decreases for 2004, 2005, 2006, and 2007.
- The Part B Co-payment benefit change factor is the estimated decrease in Part B Co-payment claims cost due to the estimated increase in the Part B Deductible and are developed separately for Medigap and Select. This decrease is attributed to the fact that an increase in the Part B Deductible will result in a decrease in the Part B Co-payment, since the co-payments for Part B services are made only after the Part B Deductible is met. This calculation is shown for each benefit change factor on their respective schedules. The Medigap 2007, 2008, and 2009 benefit change factors are 0.9986, 0.9979, and 0.9993, respectively. The Select benefit change factors for 2007, 2008, and 2009 are 0.9984, 0.9977, and 0.9992, respectively.
- There is no change in the Foreign Travel Emergency benefit.

### **Provider Fees**

The provider fees factor represents fee changes in physician services and outpatient services that affect the Part B Co-payment. The physician services fee increases for January of 2007, 2008, and 2009 can be found on Schedule 21, titled "Calculation of Part B Physician Conversion Factor Change." The physician fees are based on the actual and projected increases in the Part B physician conversion factor. There was no increase in physician payments for 2007, per the Tax Relief and Health Care Act of 2006, signed into law on December 9, 2006. The change in the physician conversion factor for 2008 and 2009 is estimated to be an increase of 1.5%. Although the 2007 Trustees Report estimates the change in the physician conversion factor to be a 10% decrease for 2008 and a 5% decrease for 2009, similar decreases for 2004, 2005, 2006, and 2007 were overridden by legislative mandate. In fact, the 2007 Trustees Report also states, "Given

recent history, multiple years of significant reductions in physician payments per service are very unlikely to occur before legislative changes intervene.” The 1.5% increase is consistent with the overriding legislative mandates for 2004 and 2005.

Payments to physicians under Medicare are also adjusted by region by multiplying it by a Geographical Adjustment Factor (GAF). The change in the GAF for Rhode Island is shown on Schedule 20 of the filing document. As explained in footnote G of Schedule 20, the change in the GAF for 2007 is based on factors found in 71 FR 70017 December 1, 2006. Final comparable factors for 2008 and 2009 have not yet been published and are assumed not to change.

The institutional services change factor shown on Schedule 20 reflects the expected change in the outpatient services coinsurance cost. This factor is impacted by the implementation of the Hospital Outpatient Prospective Payment System (OPPS) on August 1, 2000. The institutional services change factor, the change in the geographical adjustment factor, and the change in the physician conversion factor are weighted together using the base period distribution of BCBSRI-specific payments. The resulting provider fee change for Part B Co-payment is shown on Schedule 20.

- The estimated provider fee change factors effective for Medigap and Select Part B Co-payments beginning January of 2007, 2008, and 2009 are 1.0015, 1.0136, and 1.0136 respectively, per Schedule 20, Column 3.

### **Utilization/Mix**

The utilization/mix trend factor represents the increase in utilization of services from year to year and the changes in the mix of services used. This factor is calculated using trend analysis for each benefit. Five years of claims experience per contract per month is used to create trend lines. Since this factor only measures change in utilization and mix of services, all benefits are converted to their calendar year 2002 price level by dividing out the price factors for each year relative to calendar year 2002. This process is known as “de-pricing,” and it assures that any changes in pure premium from year to year are attributed only to changes in utilization and mix. Trend lines are fit to sets of data points utilizing the method of linear least-squares, which is a statistical technique for quantifying trend levels. Linear least-squares has been used for calculating trends for past rate filings. The principle of least squares states that the line of best fit to a series of observed values is the line where the sum of the squares of the deviations (the deviations between the line and the actual values) are the minimum or “least” possible. While it is possible to subjectively draw a line that best fits the data, this method provides a completely objective way of drawing that line. Following standard Blue Cross procedures, calculations are made to determine the line that best fit the data points with a minimum of the most recent two years of data (the most recent five data points or more). If there does not exist an r-squared value higher than 0.7 with five or more 12-month moving points, or the data is otherwise not conducive to this test, then actuarial judgment is used to select a trend. Medigap and Select are assumed to have the same utilization

trends for each benefit for every year. The trend graphs produced by this method can be found on Schedules 22 through 27. The annual utilization trends are as follows:

- The annual utilization/mix trend factor for Part A Deductible is 1.0112, representing a 1.12% increase in utilization. This increase is based on the calculated regression trend with an r-squared value of 0.7920 utilizing sixteen 12-month moving points.
- The annual utilization/mix trend factor for the Part A Co-payment is 1.1050, representing a 10.50% increase in utilization. Since this benefit only starts after sixty days of a hospital stay, claims for this benefit take longer to be processed than most other benefits. Thus, due to the sluggish completion patterns of this benefit, the most recent 12-month moving point is subject to greater fluctuation than other benefits for Plan 65. Therefore, actuarial judgment warrants the omission of the most recent 12-month moving point (January 2006 - December 2006). This increase is based on the calculated regression trend with an r-squared value of 0.7973 and thirteen 12-month moving points.
- The annual utilization/mix trend factor for 365 Additional Days is 1.0000; representing an assumed zero percent change in utilization and mix. This assumption is based on actuarial judgment, due to a lack of sufficient, stable data to evaluate trends, since by their nature these claims are infrequent and can fluctuate widely.
- The annual utilization/mix trend factor for the Skilled Nursing Facility Co-payment is 1.0339, representing a 3.39% increase in utilization. Since this benefit only starts after twenty days of a stay at a skilled nursing facility, claims for this benefit take longer to be processed than most other benefits. Thus, due to the sluggish completion patterns of this benefit, the most recent 12-month moving point is subject to greater fluctuation than other benefits for Plan 65. Therefore, actuarial judgment warrants the omission of the most recent 12-month moving point (January 2006 - December 2006). This increase is based on the calculated regression trend with an r-squared value of 0.6735 and thirteen 12-month moving points. Despite the fact that the r-squared is below 0.7, actuarial judgment deems this trend to be reasonable and in line with Skilled Nursing Facility utilization trends used for rating.
- The annual utilization/mix trend factor for the Part B Deductible is 1.0000; representing an assumed zero percent change in utilization and mix. Actuarial judgment is warranted by the cyclical nature of this benefit. This is due to the fact that the Part B Deductible is relatively small and usually met in the beginning of the year by most subscribers, resulting in a non-linear payment pattern.
- The annual utilization/mix trend factor for the Part B Co-payment is 1.0344, representing a 3.44% increase in utilization and mix. This increase is based on

the calculated regression trend with an r-squared value of 0.8951 and seventeen 12-month moving points.

- The annual pure premium trend factor for the Foreign Travel Emergency benefit is 1.0000; representing an assumed zero percent change in pure premium. Due to the erratic nature of this benefit and the unreasonableness of the indicated trend, actuarial judgment warrants the replacement of the calculated trend, 203.46% with an r-squared value of 0.7770 and five 12-month moving points, with a trend of 0.00%, or no change.

Once these three factors have been obtained, they are multiplied together to get the composite projection factor. The composite projection factor represents the overall increase in the pure premium for each benefit from year to year, as shown on Schedules 15 through 17 and Schedules 9 through 11 for Medigap and Select, respectively. After the pure premium for each benefit has been projected into calendar years 2008 and 2009, these projected values are aggregated to obtain the total projected pure premium for each benefit plan for calendar years 2008 and 2009. Since the rate year contains months in both calendar years 2008 and 2009, the pure premium for each of the two years is then weighted by the number of months in each calendar year. Subsequently, the pure premiums for the three billing cycles are weighted by the enrollment in each billing cycle, yielding the projected pure premium for the rating year. These computations are shown on Schedules 14 and 8 for Medigap and Select, respectively.

Since Select Plan L does not contain sufficient claims experience for rating purposes, the claims experience from the other Select plans was utilized. The pure premium for Select Plan L is calculated using the projected claims for Select plans adjusted for benefit differences. For example, since Plan L covers the Skilled Nursing Facility co-payment at 75%, the projected pure premium for the Skilled Nursing Facility co-payment is multiplied by a factor of 0.75. This amount is then adjusted by a "benefit richness" factor. The benefit richness factor, which is 0.9750, represents the decrease in utilization that is expected with a decrease in benefits. The actuarial support for this assumption is in the letter from James A. Dunlap, F.S.A., M.A.A.A., dated May 19, 2006 submitted with last year's rate filing. Finally, since this plan includes an out of pocket maximum, the amount of claims expected to be incurred above the out of pocket limit is included as an additional benefit component. Similar to the other benefit plans, the benefit components covered by the Select Plan L benefit design are aggregated to arrive at the projected pure premium.

### ➤ **Retention**

The retention component of the required rate is made up of three parts; the administrative expenses, Investment Income Credit, and Contribution to Reserve/Tax.

The administrative expenses represent our expected costs for administrating the Medigap and Select products during the rate year. The projected costs for calendar years 2008 and 2009 are shown on Schedule 29. Similar to the claims expense, these calendar year

administrative expenses must be weighted together to convert them to expected costs during the rate year. These calculations are shown on Schedules 14 and 8 for Medigap and Select, respectively. The administrative expenses during the rate year for Medigap and Select are \$21.6433 and \$21.6364 PCPM for Medigap and Select, respectively.

The Investment Income Credit component represents the reduction of the required subscription income PCPM due to the anticipated return on invested funds. This credit is calculated by looking at the contingency reserves, prepaid subscriptions, and claim reserves and is applied as a percentage of the projected pure premium plus the administrative expenses per contract per month. This percentage is calculated to be 1.36%.

The Contribution to Reserve/Tax factor of 0.9640 represents a 2% reserve contribution plus an additional 1.6% to account for federal income taxes (0.5%) and the newly enacted state premium tax (1.1%) passed on June 21, 2007. This factor would produce a 2% contribution to reserve on a post-tax basis. The resulting rate components for Medigap and Select are shown on Schedules 13 and 7 respectively.

These components cover the retention portion of the required rate.

### ➤ **Required Rate Adjustment Factor**

The projected pure premium plus the retention portions yield the required rates. The required rate adjustment factor for a given plan is calculated as the required subscription income divided by the present weighted average subscription income.

The present rate of income (PRI) for each plan is calculated first by dividing the total Plan 65 PRI at April 2007 without age-in credit divided by the total Plan 65 PRI at April with age-in credit. This divisional factor is then applied to the PRI without age-in credit for each plan to yield the PRI used for rating purposes. This process ensures an equitable distribution of Age-in credit savings for rating purposes. This calculation can be found on Schedule 19. It is important to note that this process does not change the overall required rate increase, but simply distributes the impact of the existing age-in rates evenly across all plans.

The methodology of using weighted average present rates to calculate required rate adjustment factors is one that is commonly used in the insurance industry to set appropriate premium levels. The weighted average present rate method discussed above recognizes the age-in discounts already being received by members but does not make any projection for future enrollment growth. The failure to recognize any of these premium discounts in setting premium rates would make the age-in credit program unsustainable going forward.

After calculating the PRI, the required rate is divided by the PRI for each plan yielding the rate adjustment factor for each plan. The rate adjustment factor represents the

required increase to the present rates. This factor is multiplied by the present monthly subscription rates in each plan to derive the required monthly subscription rates.

➤ **Conclusion**

In conclusion, the pure premium and retention portions of each Medigap and Select plan comprise the total rate for this year's rate filing. The pure premium is projected from calendar year 2006 to 2007, 2008, and 2009 using factors accounting for benefit changes, provider fees, and utilization/mix. The pure premiums for calendar years 2008 and 2009 are then converted to the rate year pure premium. The retention components encompass our expected administrative expenses, investment income credit, and reserve contribution and tax liability. The sum of these components yields the required subscription income. The required subscription income divided by the adjusted present rate of income yields the required rate adjustment factor for each plan. That factor is then applied to each plan individually to yield the required rates for each product.

➤ **Affordability Update**

With last year's filing, two initiatives were introduced in order to address affordability for the Plan 65 Non-Group line of business. These initiatives were the Age-in credit and the new Select L offering.

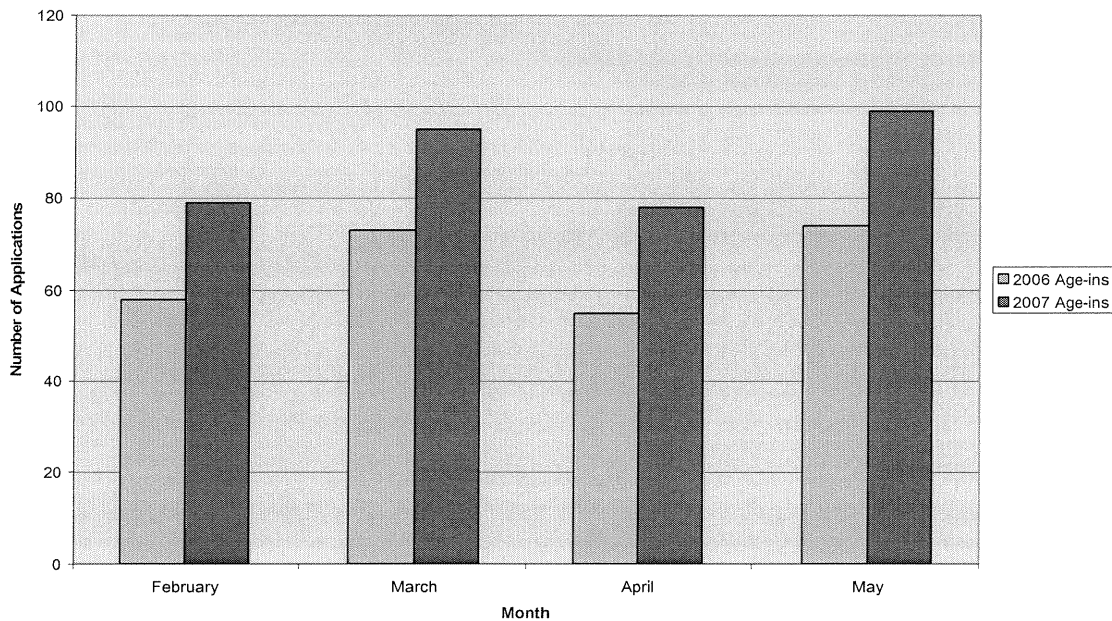
**Age-in Credit**

The Age-in Credit was introduced in the previous Plan 65 Non-Group rate filing in order to moderate future claims trends by attracting younger members. The program gives members who enroll in Plan 65 within the first six months of Medicare Part B eligibility discounts on their rates for the first three years of their enrollment. The first, second, and third year discounts are 30%, 20%, and 10% respectively. After the third year, the member pays the full premium associated with their plan. The Age-in Credit is only applicable to Medigap A, Medigap C, Select C, and Select L plans, since Medigap B and Select B are closed to new enrollment.

It is too early to tell whether or not this program has indeed lowered the claims base for Plan 65 Non-Group. However, even though the program is still in its infancy, the results so far are encouraging. The number of age-in applications received since the implementation of the Age-in Credit in February 2007 from members eligible for this program as of May 2007 is 351, which is 91 applications, or 35%, more than the same time period last year. These figures are broken down by month in the chart below.



Plan 65 Non-Group Age-in Applications for February, March, April, and May of 2006 and 2007



There are currently approximately 900 members currently enrolled in the age-in program as of June 2007, most of who were retroactively enrolled. The retroactive enrollment consists of members that became eligible for Medicare Part B between August 1, 2006 and January 31, 2007, but had enrolled in a Medigap plan prior to the February 1, 2007 filing, when the discount was introduced. These members were made eligible for the age-in discount since they could have theoretically waited until February 1, 2007 to enroll and still been within 6 months of Medicare eligibility. This policy was adopted so that the members who were responsible by enrolling in supplemental health insurance as soon as they were eligible would not be unfairly disadvantaged. We shall continue to monitor this program and its impact on Plan 65 enrollment growth.

### Select L

Also introduced in last year's filing was the Select L product. Select L is differentiated from its other Medigap brethren by its higher cost sharing, lower required premiums, and an annual out-of-pocket limit. The Part A portion of Plan L pays 75% of the Part A Deductible for days 1-60 of a hospital stay, 100% of the Part A Co-payments for days 61-150 of a hospital stay (while Lifetime Reserve Days are being used), and up to 365 fully paid Additional Hospital Days after all other Medicare hospital benefits have been depleted. However, since this product is being offered with our Select network, members will not be required to pay their portion of the Part A Deductible when they utilize network hospitals. Also, emergency hospital services are covered in full, regardless of provider. The Co-payment for Skilled Nursing Facility is covered at 75%. The Part B portion of Plan L pays 75% of the Medicare Part B coinsurance after the Part B Deductible has been met and it pays 100% of the coinsurance for Part B preventative services. Plan L also pays 75% of the first three pints of blood (or its packed red blood

cell equivalent) unless it is replaced. Plan L also pays 75% of the cost sharing for hospice care. Finally, Plan L has an annual out-of-pocket (OOP) limit of \$2,070. While the OOP limits for 2008 and 2009 have not yet been published, they are expected to increase from 2007 to 2008 and 2008 to 2009 due to inflation.

As of June 2007, there are approximately 50 members enrolled in our Select L product.

### **Conclusion**

Since both the Age-in Discount and Select L programs are only a few months old, we cannot come to any hard and fast conclusions on whether or not they have been successful in moderating claims trends. However, enrollment activity has been encouraging and we will continue to monitor the status of these initiatives.